



Naval Surface Fire Support



CAPT C. Hamilton
Program Executive Officer
Surface Strike

National Defense Industrial Association

25 October 2000

ISSUES AND CHALLENGES - PEO(S) PERSPECTIVE

- ◆ **AIR SPACE DECONFLICTION**
 - TECHNICALY
 - DOCTRINALLY
- ◆ **GROUND SPACE DECONFLICTION**
 - TECHNICALY
 - DOCTRINALLY
- ◆ **TIME CRITICAL TARGETING / TIME CRITICAL STRIKE**
- ◆ **INTEROPERABILITY**
 - AFATDS / NFCS / CEC / LINK 16 / GCCS-M / TADILS
 - COALITION INTEROPERABILITY

ISSUES AND CHALLENGES - PEO(S) PERSPECTIVE (cont.)

- ◆ Training
 - TRAINING RANGE AVAILABILITY / ADEQUACY FOR ERGM / LASM
- ◆ NON-COMBAT EXPENDITURE OF PRECISION-GUIDED ROUNDS (PROFICIENCY VS AFFORDABILITY)
- ◆ RISK MITIGATIONS FOR:
 - 5 INCH ERGM
 - ADVANCED GUN SYSTEM
 - ALAM
- ◆ ARMY / NAVY COMMON MUNITIONS APPROACHES
- ◆ READINESS OF IN-SERVICE GUN ASSETS (A_0)
- ◆ ARMY TRANSFORMATION IMPLICATIONS FOR NAVAL SURFACE FIRES

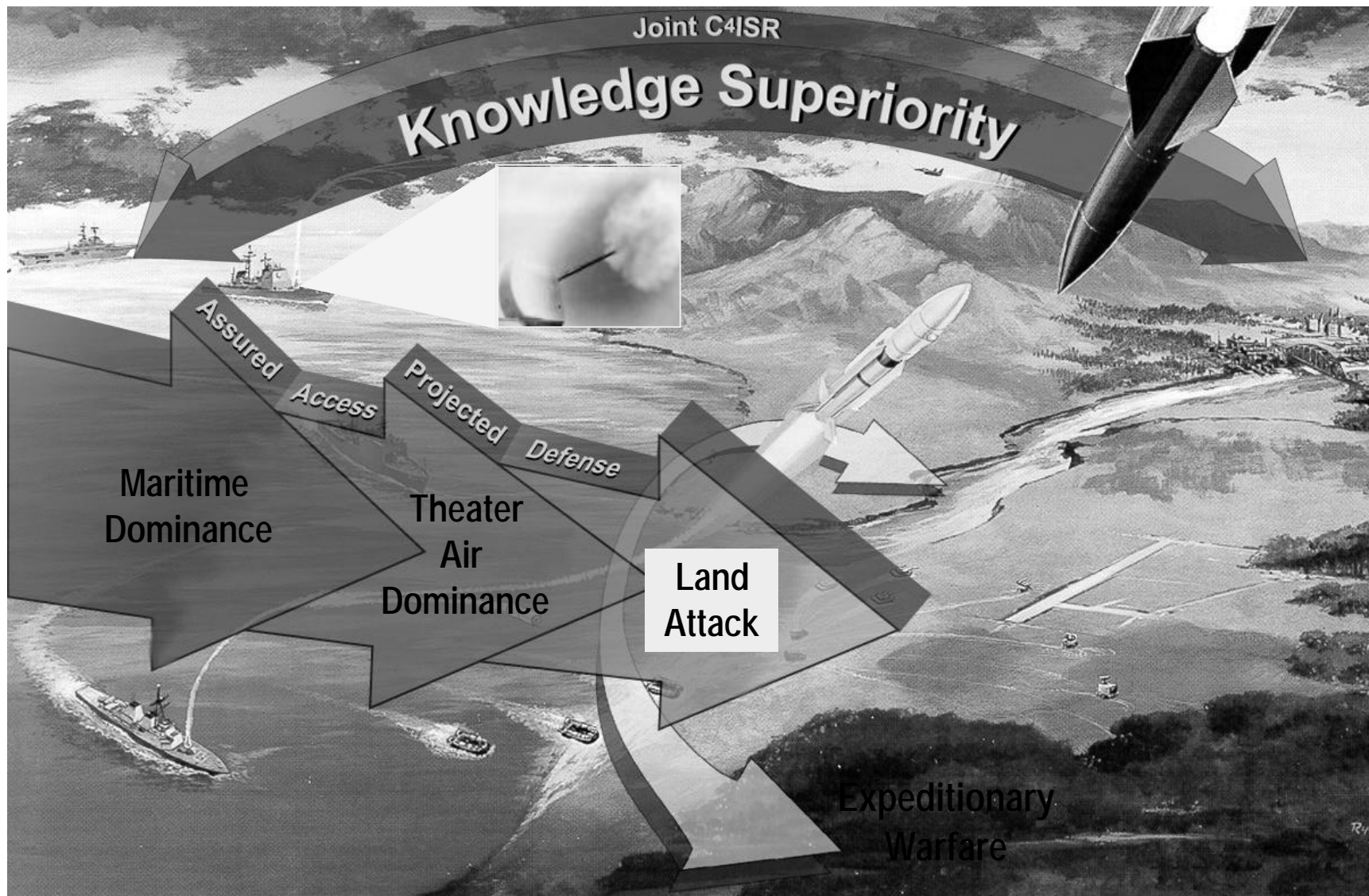
Surface Warfare Vision

The Surface Navy in the 21st Century

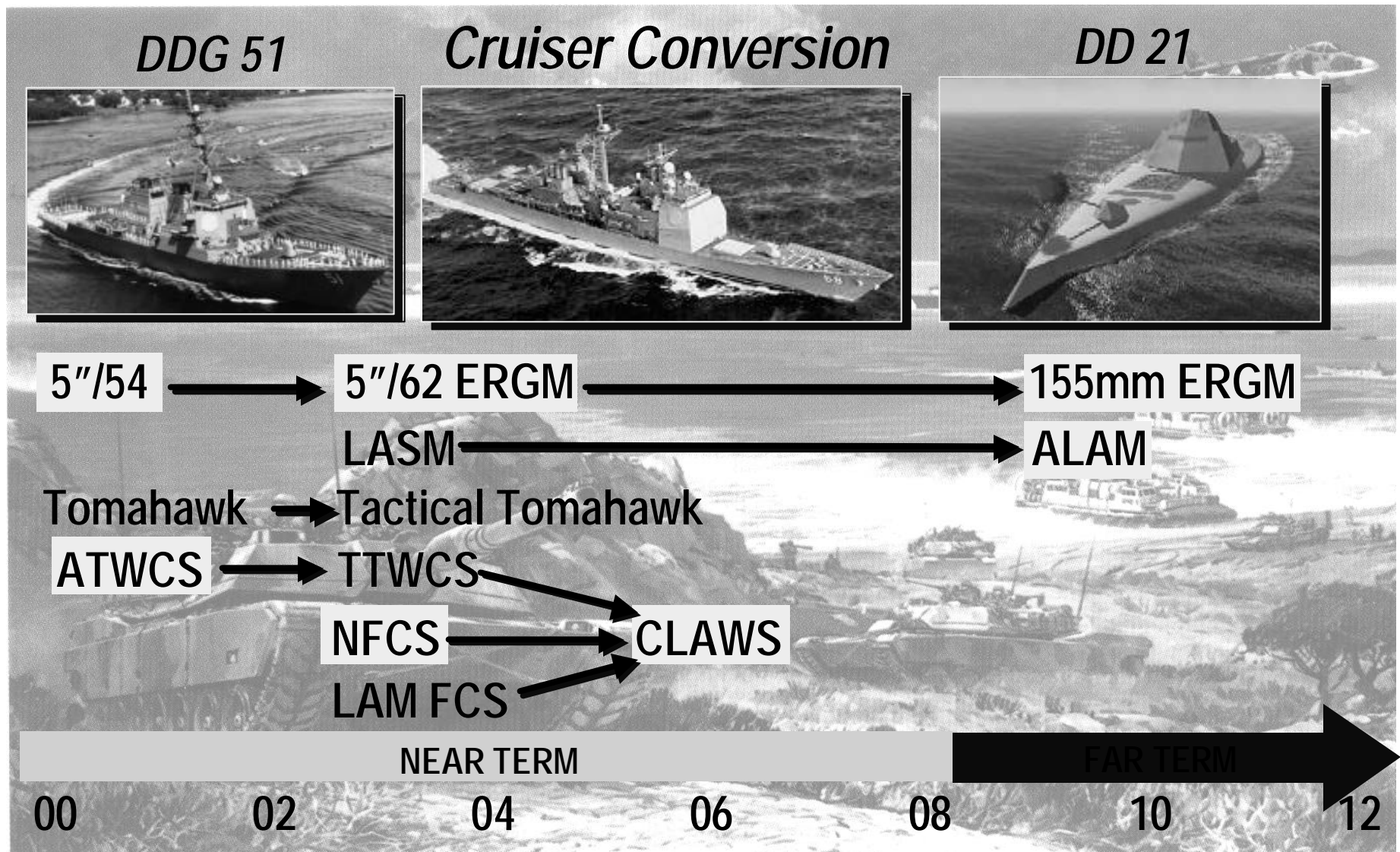
The surface navy will be an *offensive* maritime force. From a foundation of maritime dominance, we will ensure entry into the 21st- century joint battlespace through the twin missions of *land attack* and *theater air dominance*.

The surface navy will be interoperable with joint forces in netcentric C4ISR and provide maritime force protection, precision strike and sea-based artillery, and theater air and ballistic missile defense to the air, land, and sea elements of the joint task force

21st Century Joint Battlespace



Meeting The Requirements

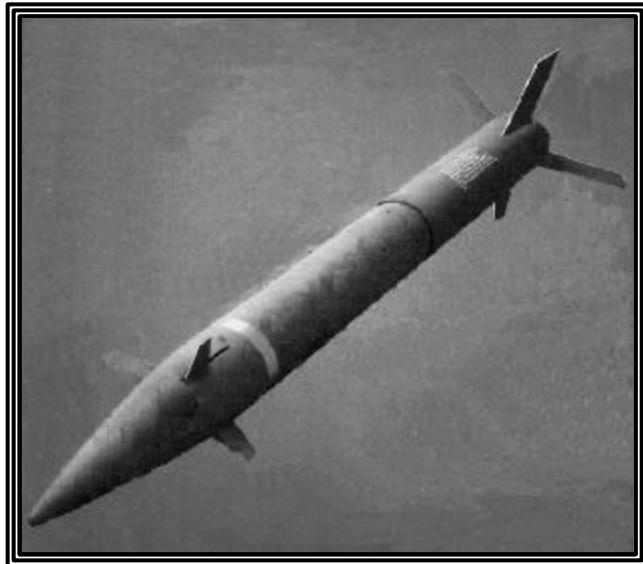
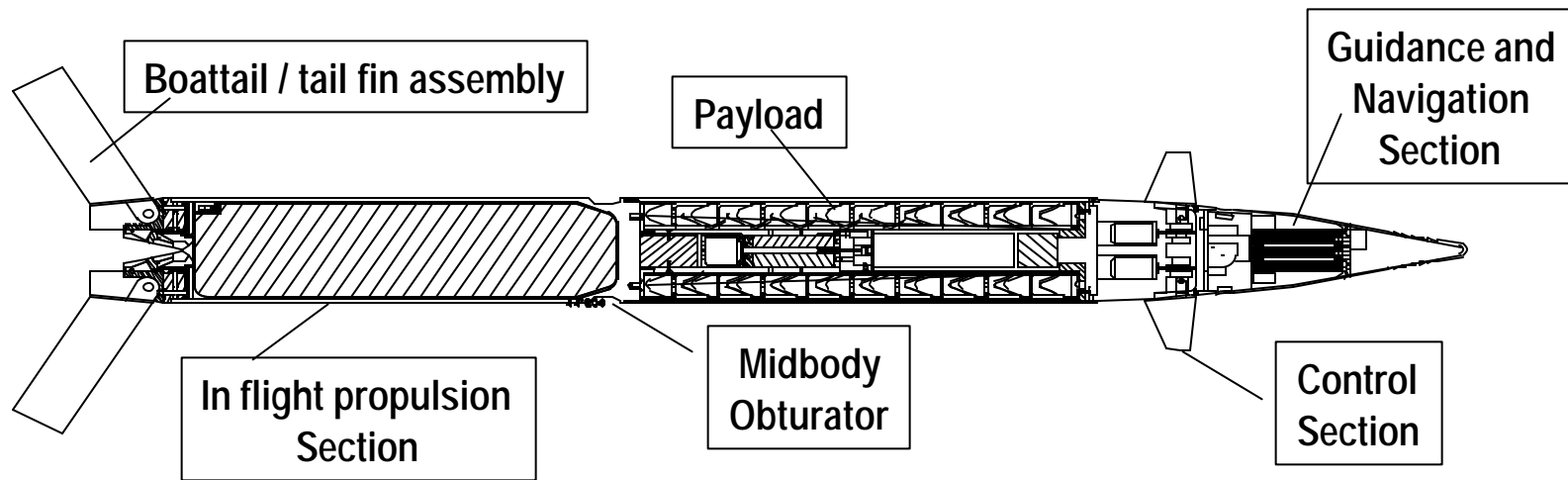


5"/62 Gun Capabilities



- ◆ **Modified 5"/ 54**
 - Fires ERGM and Conventional Ammo
 - Increased reliability, less maintenance
- ◆ **Fleet Introduction in USS WINSTON S. CHURCHILL (DDG 81)**

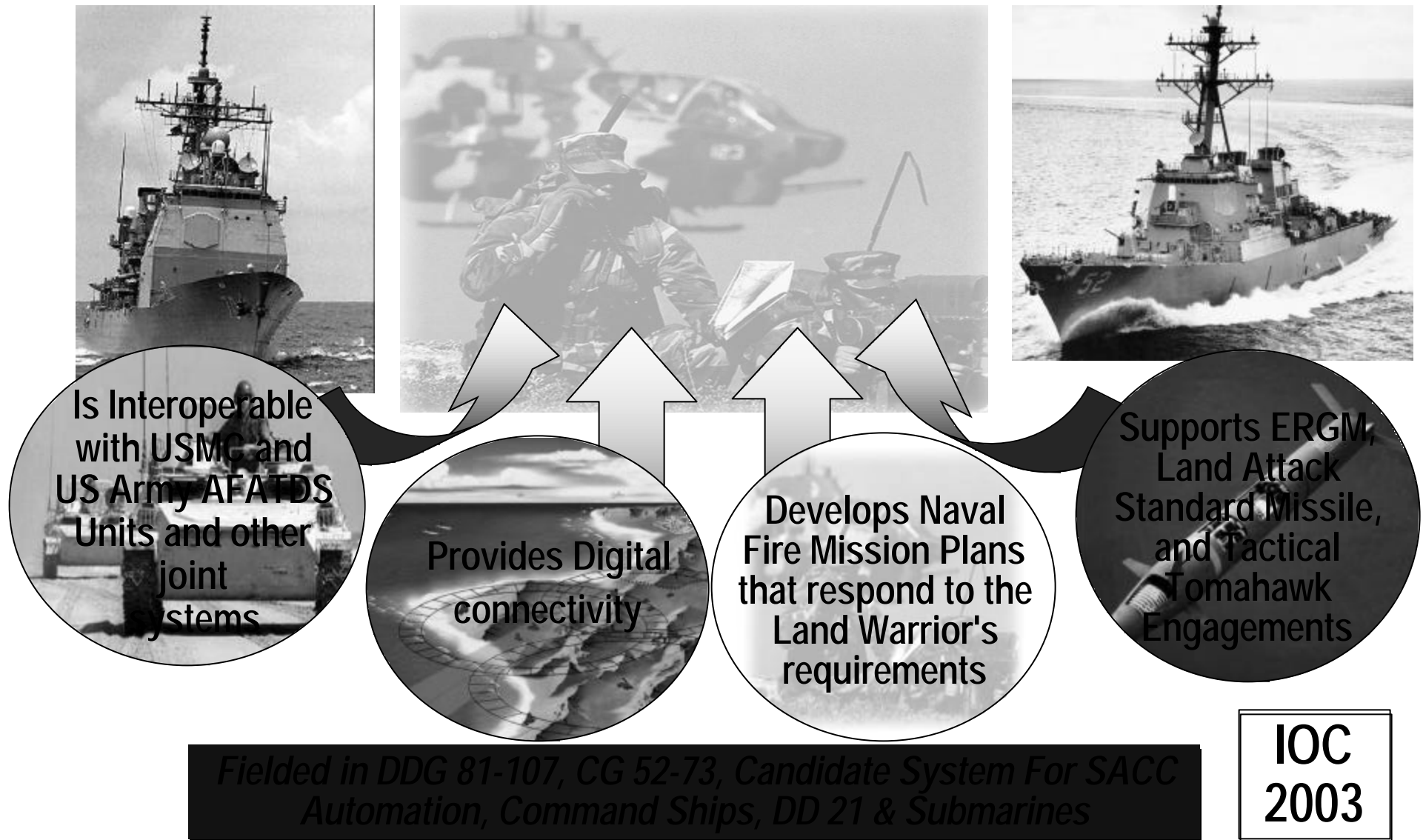
Extended Range Guided Munition (ERGM)

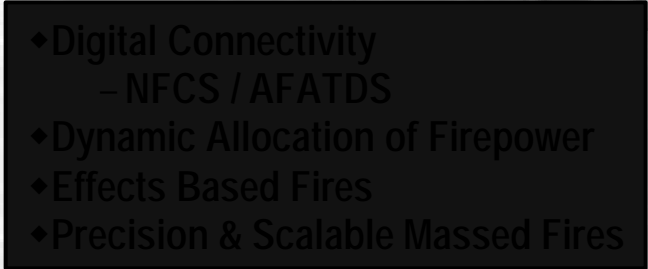


ERGM Characteristics

- ♦ Range: 41 - 63NM
- ♦ GPS / INS Coupled Guidance and Navigation
- ♦ Rocket Assisted Projectile
- ♦ 72 M-80 DPICM Submunitions
- ♦ 10m - 20m CEP
- ♦ Time-of-Flight ~7 Minutes at 63nm

Naval Fires Control System (NFCS)





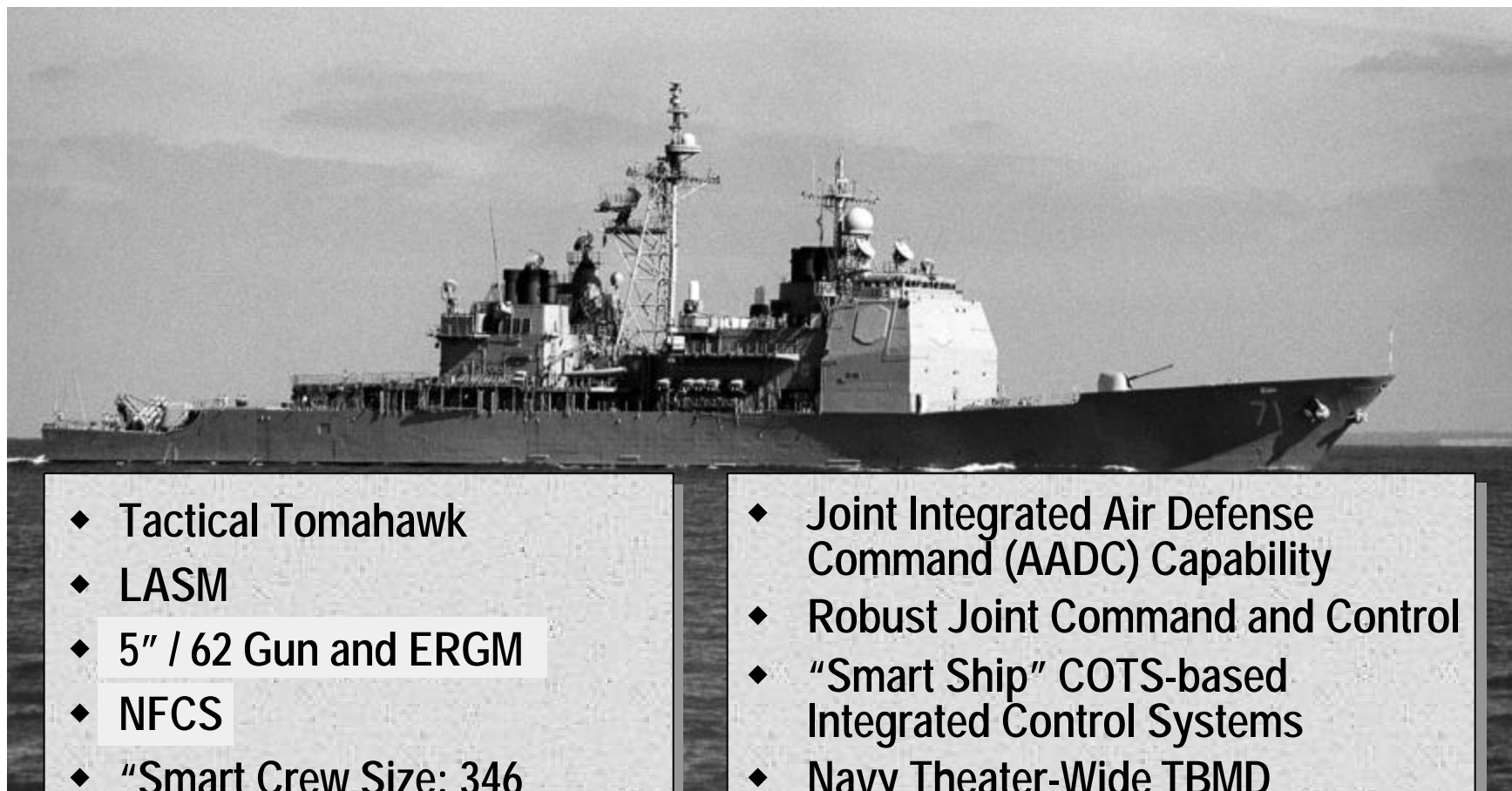
The DDG and the Littoral... Enabler for Assured Access

- ◆ Area TBMD
- ◆ SM-2 Blk IVA
- ◆ 5" / 62 Gun and ERGM
- ◆ LASM
- ◆ TACTOM
- ◆ SC CLAWS
- ◆ SPY-1D(V) W / TIP
- ◆ CEC / Link 16
- ◆ Dual SH-60R
- ◆ Organic Minehunting



First of a New Breed of Land Attack Combatants

Cruiser Conversion



- ◆ Tactical Tomahawk
- ◆ LASM
- ◆ 5" / 62 Gun and ERGM
- ◆ NFCS
- ◆ "Smart Crew Size: 346

- ◆ Joint Integrated Air Defense Command (AADC) Capability
- ◆ Robust Joint Command and Control
- ◆ "Smart Ship" COTS-based Integrated Control Systems
- ◆ Navy Theater-Wide TBMD

Land Attack Multiplier

DD 21

The Future of Surface Warfare

Illustration courtesy of United Defense

- ◆ AGS
- ◆ ALAM
- ◆ Tactical Tomahawk
- ◆ MFR / VSR
- ◆ IUSW



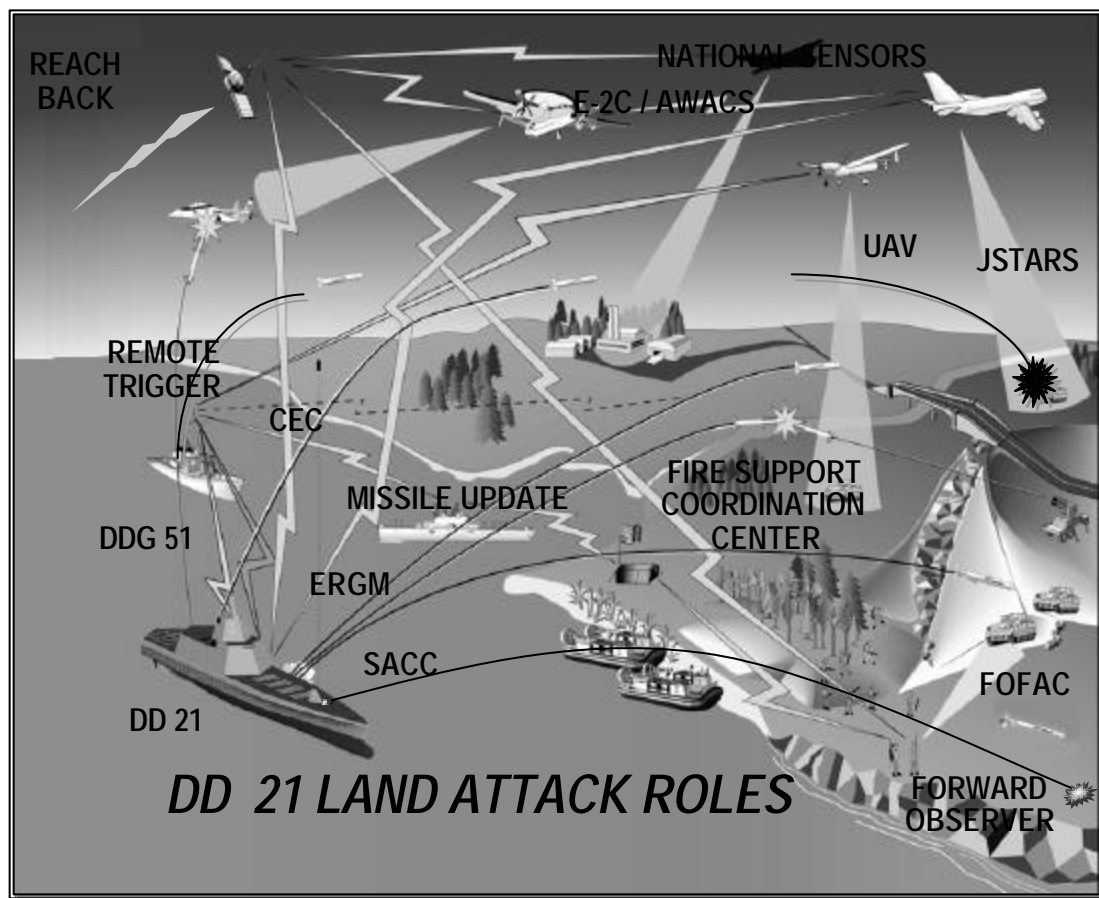
"The Continued Development of the Navy's Land Attack Destroyer is Absolutely Critical to Success in Future Operations."

LtGen Rhodes

Before the SAS Seapower Subcommittee, 3 Mar 99

DD 21 CONOPS and Joint Fires

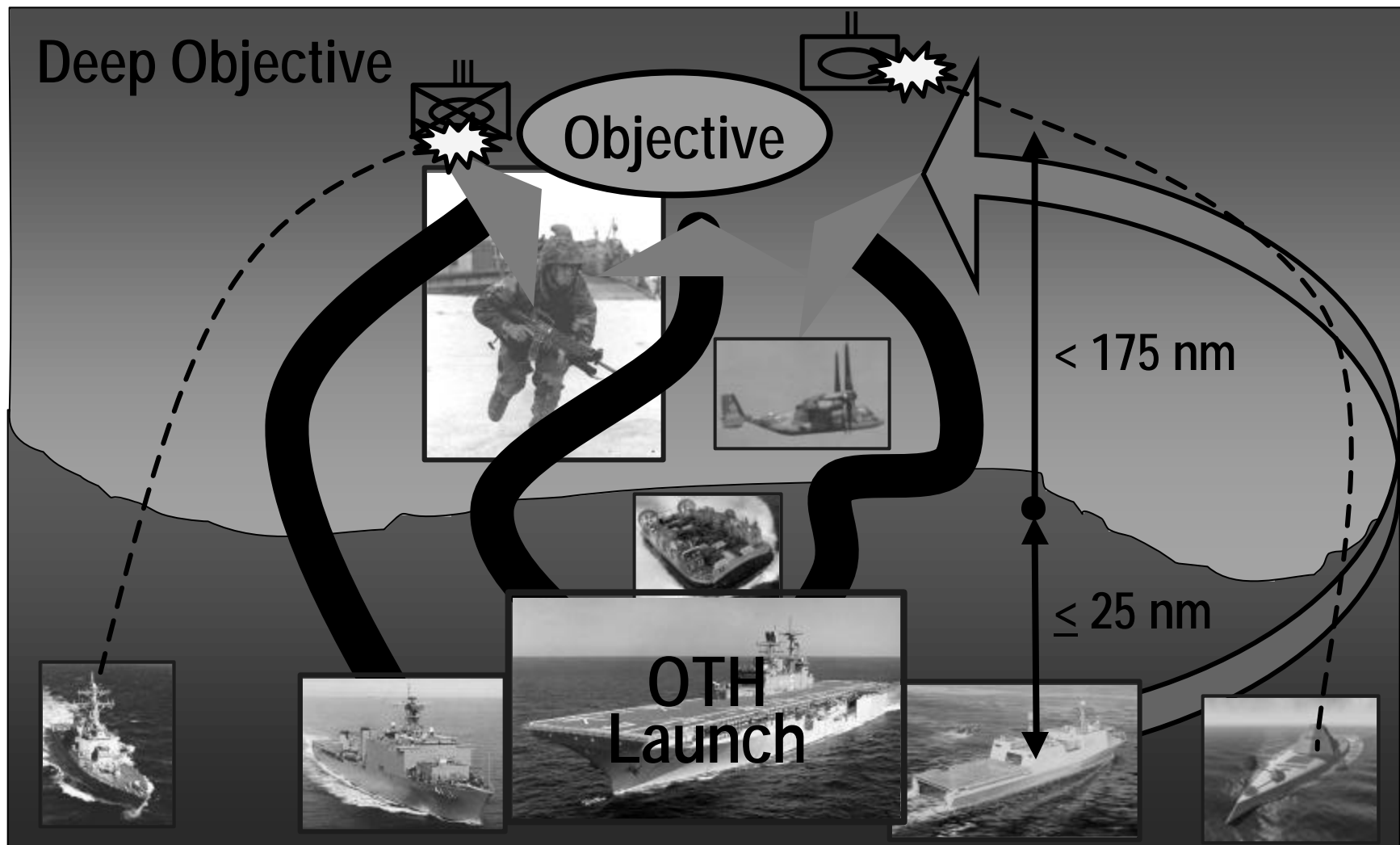
- ◆ Concepts Evolving to Meet Future Scenarios and Threat
- ◆ Need to Develop Joint Fires Concepts to Ensure DD 21 CONOPS Meets USMC, Army, and Joint Needs:
 - Joint Fires Element
 - Effects Coordination Center (ECC) Concept
 - Joint Fires in Support of Full Spectrum Ops
 - Joint Battlespace Management
 - Effects Based Fires



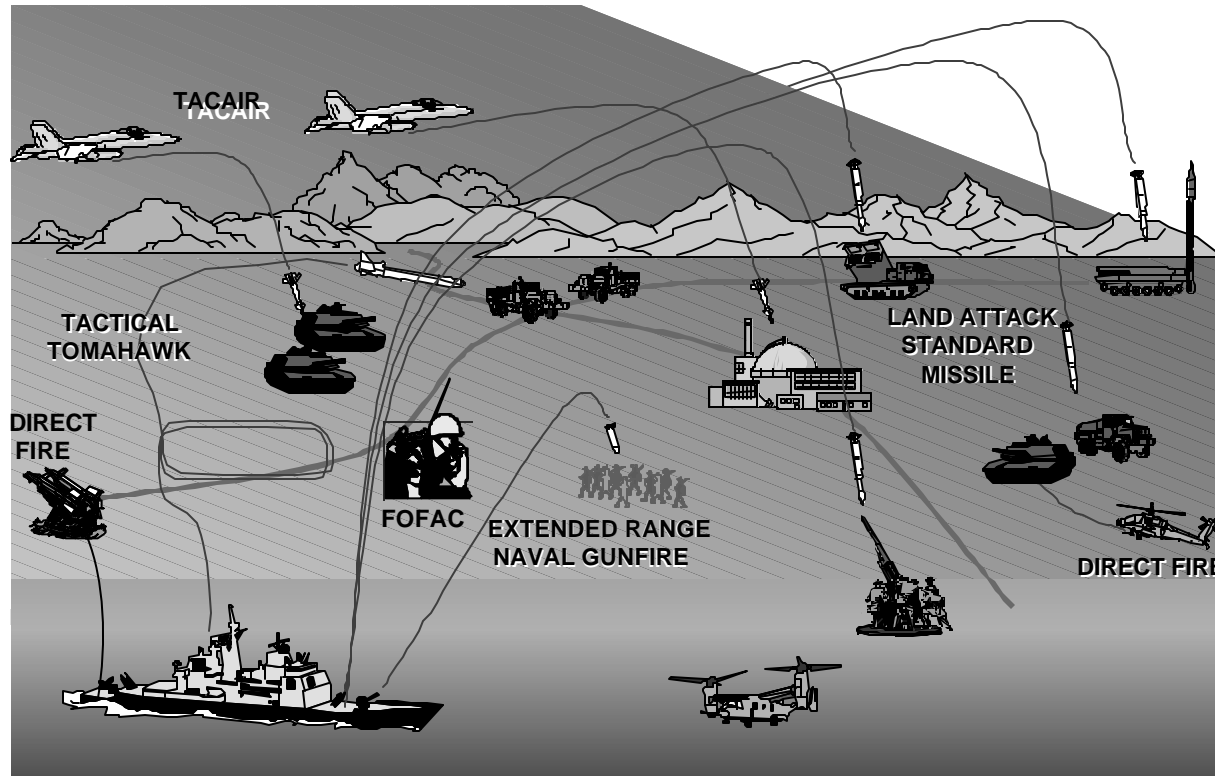
We Need a Combined, Synergistic Approach to Develop Mutually Supportable Concepts

21st Century Battlefield

Fire Support for OMFTS / STOM



Land Attack Operational Context



- ◆ Enabler for OMFTS / STOM
- ◆ Seabased firepower will be allocated dynamically from a networked-based architecture
- ◆ Precise and scalable massed fires
- ◆ Executed at all levels of war / lowest possible echelon
- ◆ Match firepower, not ships, to the mission

Advanced Gun System (AGS)

◆ Requirement

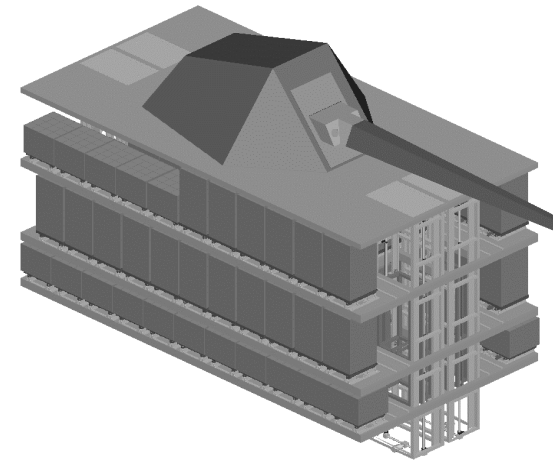
- Volume of fires & sustainability
- Improved lethality
- Increased range

◆ 155mm ERGM

- ★ 100nm range
- ★ Twice the payload of 5" round
- Complementary program
 - ★ Leverages existing ordnance technologies
 - » 5" ERGM
 - » Army XM982 155mm projectile
 - » SADARM / unitary warheads
 - » Army Crusader program

◆ IOC with DD 21

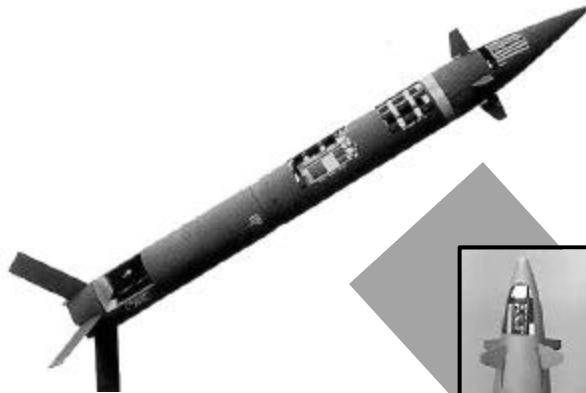
Training / Elevating Concept



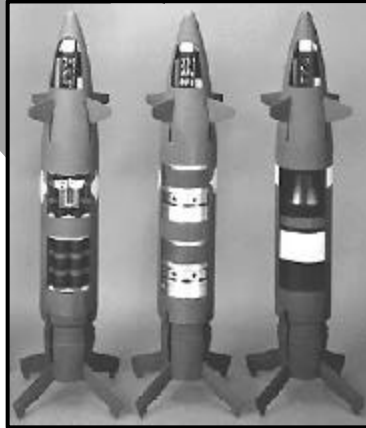
◆ AGS Characteristics:

- Specified 155mm Artillery Battery equivalency
- 2 Single Barrel Gun Systems
- 750 155mm ERGM rounds / gun system
- 12 rounds / minute per gun
- Reduced signature
- Advanced Handling System
- Reduced maintenance

Leveraging Advanced Munitions Technology

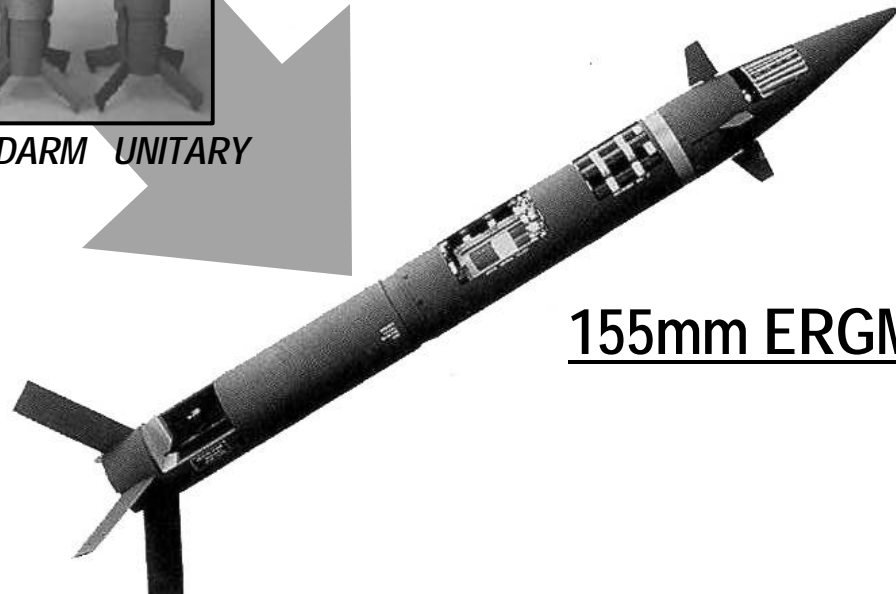


5" ERGM
(EX171)



DPICM SADARM UNITARY

155mm ERGM
(XM982 - US Army)



155mm ERGM

*Accrue ~ \$50M in
Savings Across
the Programs*

Mobile Sea Based Fires in Support of Army Operations

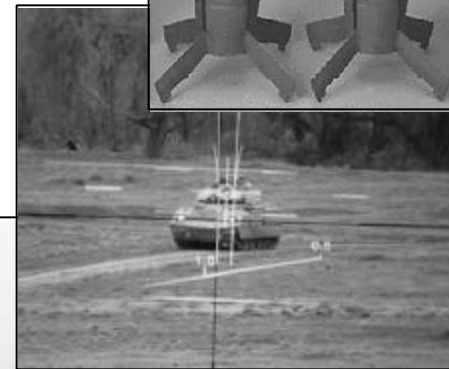
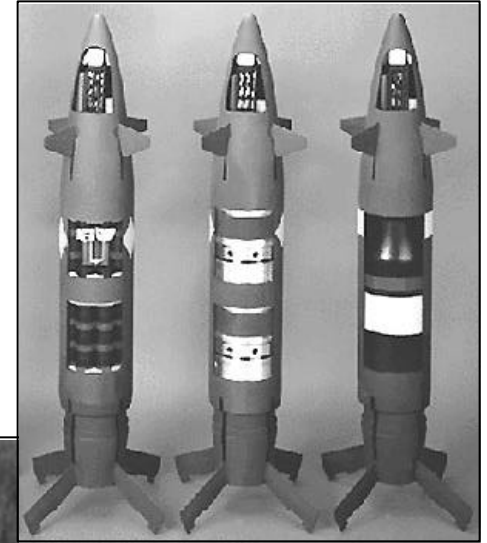
- ◆ Enhanced NSFS Capabilities to Complement Interim Brigade Combat Team (IBCT)
 - Forward Deployed
 - Self-sustainable
 - Reduced Land-based Footprint
- ◆ Robust, Responsive Sea-based Firepower
 - 5" ERGM, LASM, TACTOM in FY05
 - 155mm ERGM, ALAM in FY10
 - Organic Surveillance & Targeting Capabilities



	DD 21 (w/ 2 AGS)	M198 155mm (6 / battery)
Rate of Fire	24 rds / min	12 rds / min
Range	182Km	30Km

Army / Navy Fire Support Interaction

- ◆ Army / Navy Coordinated Munitions Roadmap (ERGM / XM 982)
- ◆ NFCS / AFATDS Interoperability
- ◆ Common Projectile Guidance
- ◆ M80 Lethality
- ◆ Conventional Munitions Technologies
- ◆ Insensitive Munitions
- ◆ Advanced Munitions Technologies



Other Opportunities for Army / Navy Interaction



- ◆ Annual Prairie Warrior Exercise in Ft. Leavenworth
- ◆ Continue Discussion on Joint Fire Support Doctrine & CONOPS
- ◆ Engagement with Army Battle Command Training Program (BCTP)
- ◆ Joint Experimentation-Rapid Decisive Operations (RDO)
- ◆ Continued Engagement with Field Artillery at Ft. Sill

PEO(S) Website



Program Executive Office for Surface Strike

<http://PEOS.crane.navy.mil>

MISSION & VISION

ORGANIZATION

BUSINESS OPERATIONS

NEWS & UPDATES

FAQs

CONTACT US

RELATED LINKS

DD 21 ▶ 21st Century Land Attack Destroyer [PMS 500]

IPS ▶ Integrated Power System [PMS 510]

ATC ▶ Affordability Through Commonality [PMS 512]

ALAM ▶ Advanced Land Attack Missile [PMS 520]

NSFS ▶ Naval Surface Fire Support [PMS 529]

▶ **Optimized Manning [PEO (S) - M]**

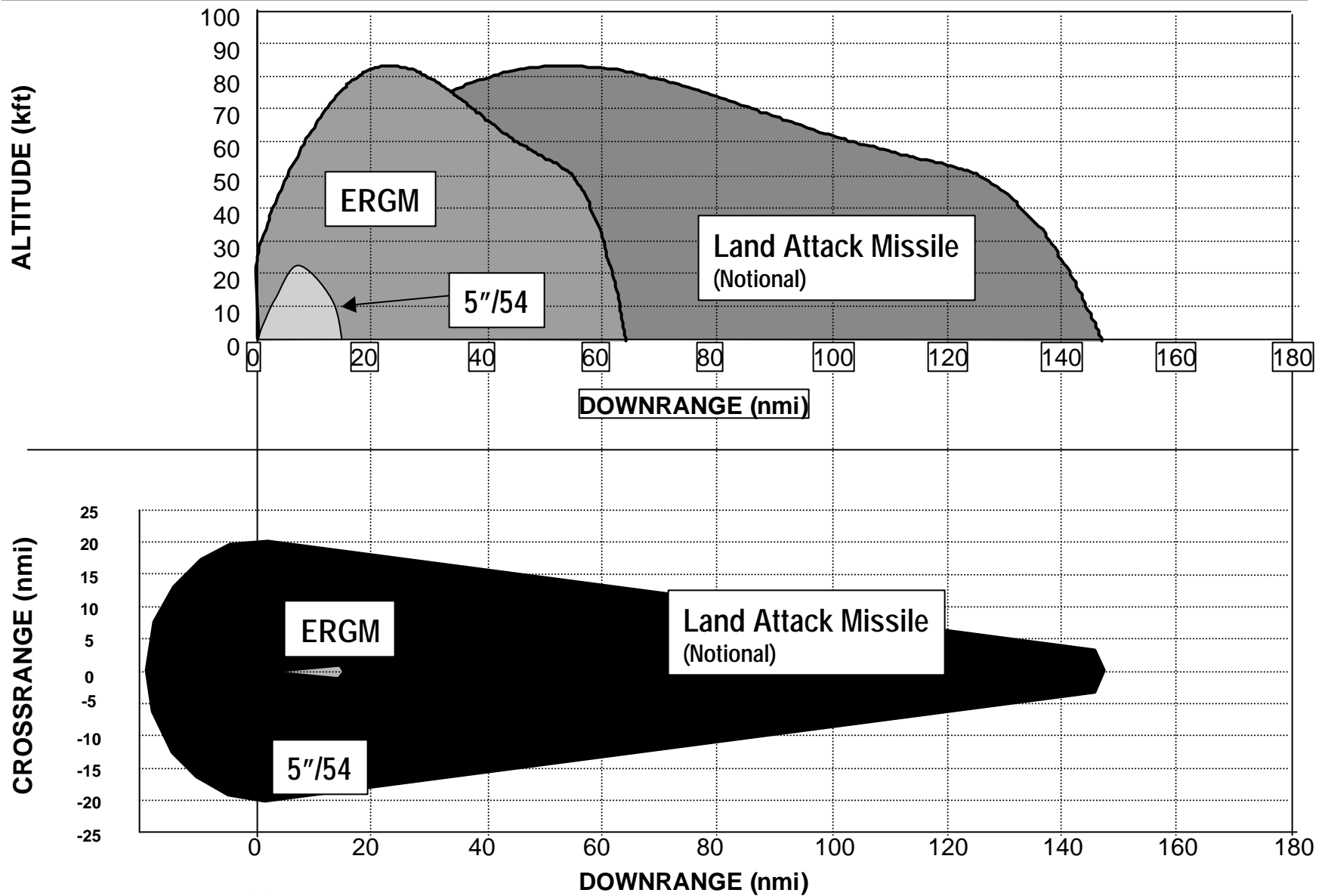
▶ **Science and Technology [PEO (S) - ST]**

NAVSEA (www.navsea.navy.mil) • Security and Privacy Notice • Last Updated: 11 April 2000

Maintaining Gun Weapons Systems Operational Effectiveness

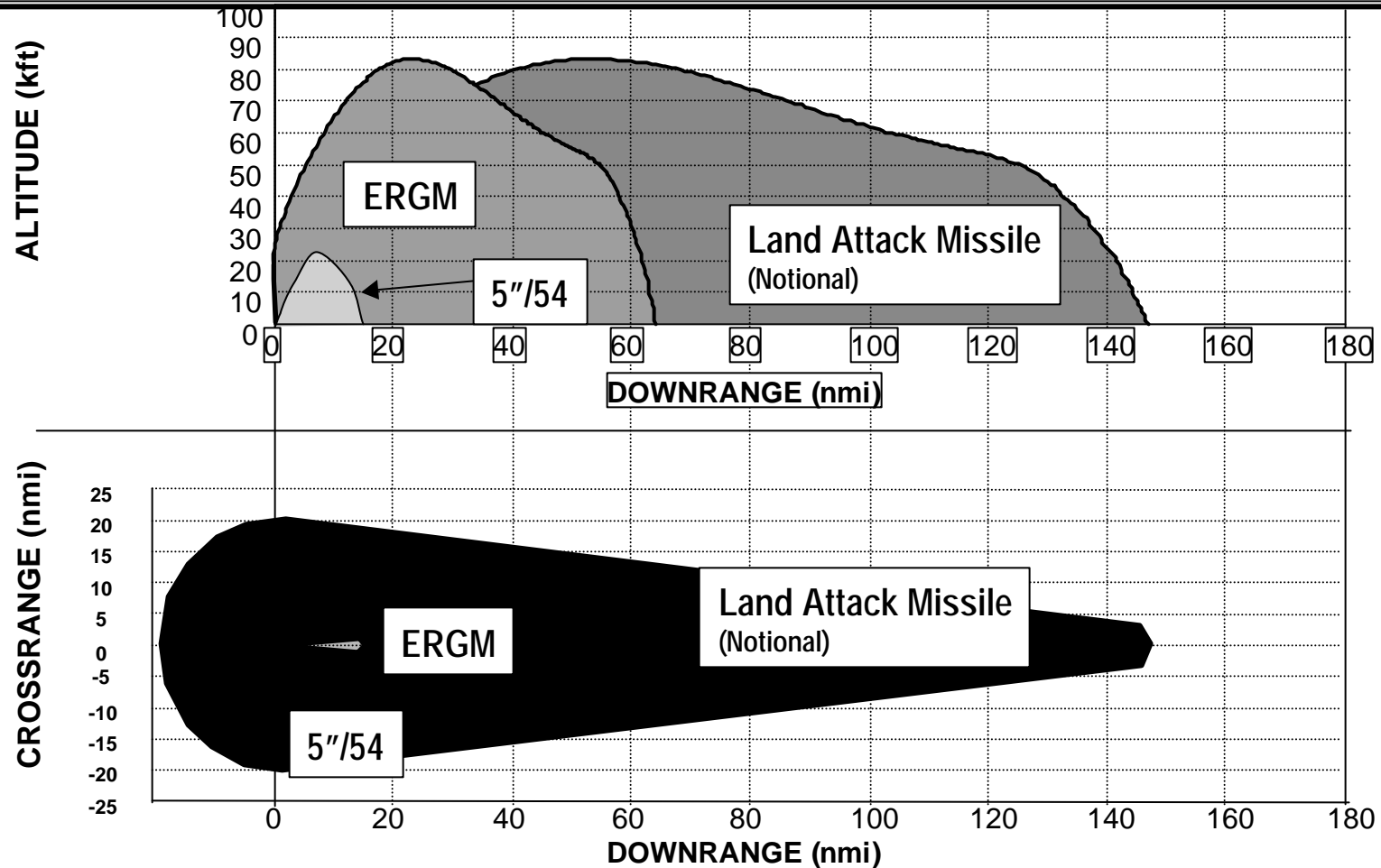
- ◆ Problem: Mk45 & Mk 75 GWS
 - Aging and maintenance intensive
 - New initiatives required to maintain Fleet readiness
- ◆ Initiatives:
 - Commenced pierside overhaul
 - er* 5 year intervals
 - er* Material condition review
 - er* Depot level overhauls reserved
- ◆ Initiatives (cont.):
 - Ord Alt Installation
 - er* Aggressively installing
 - er* Common configuration
 - er* Simplifying logistics
 - Sparing
 - er* Increasing shipboard allowances
 - Training
 - er* FTSC training road shows for refresher
 - er* Additional training aids at school house
- ◆ Positive trend starting to show based upon above initiatives

NSFS HAZARD FOOTPRINTS



NEW CAPABILITIES...NEW CHALLENGES

NSFS HAZARD FOOTPRINTS



Current Navy land ranges are inadequate to support NSFS munitions.

PEO(S) Presents Model AGS Round to CMC

